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Project CODY

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Introduction

Project CODY is an educational outreach program created in collaboration between Clark's Computer Science Department and the Hiatt Center for Urban Education to the youth of Worcester and beyond, that took place in summer 2020. The project, named for CODing Youth, offered computer science and digital literacy via free lessons taught over Zoom by knowledgeable teens and undergrads. Critical to the mission of the project were: accessibility to demographics that are underrepresented in computer science, creation of fun educational experiences for kids in grades 5 through 12, and alleviation of the stress and isolation of a summer in lockdown. The program ran successfully from May 2020 to September 2020, and looks forward to continuing in the future. Access Project CODY's website at https://cs.clarku.edu/~cody/

Timeline

May — Birth

Project CODY is born: planning, logistics, and curriculum.

June — Project's launch

1st trial run, then begin registration of 90 students; Session 1

July — Session 1

Conclusion of Session 1, registration of 60 students; Session 2

Aug — Session 2

Conclusion of Session 2.

Sept — Showcase

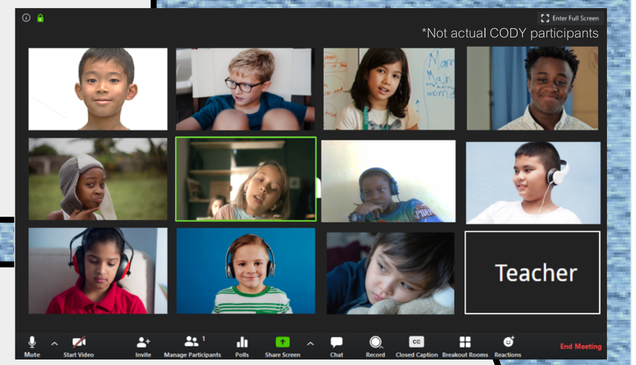
Final closing showcase of more than 100 students' work to parents and teachers.

Making CODY

The idea for CODY started with Professor Li Han and local high school student Clarise Lui. The collaboration also included Professors John Magee and Kate Bielaczyc. Two Computer Science students, myself and Violet Blue, also joined the core team as part of LEEP projects, to create a core team of six. Throughout early May 2020, this team took the idea for CODY and developed it into a plan with program goals, a working website, and a curriculum. In early June, the program grew for the first time, taking on 20 volunteer mentors to help teach lessons. By late June, Project CODY launched Session 1 registration and received an overwhelming 90 to 100 sign-ups of kids in 5th through 12th grade! Throughout the summer, the program ran four days a week, with 90 minute classes in basic, intermediate, and advanced levels. The core team of CODY captains worked with mentors to organize weekly offerings and teach classes daily over Zoom.

Curriculum

The curriculum was chosen with an eye to its accessibility through the internet and its age-appropriate computer science material. The most basic classes were taught using Scratch, a visual based programming platform from MIT. The intermediate classes were also taught with Scratch, covering basics, game design, and website design using text-based coding. The advanced class was taught the basics of text-based coding in Java, a professional-caliber programming language.



Impact

- Provided free daily programs to local kids including low-income families; taught computer science and digital literacy to dozens of local kids.
- Provided paid summer internships to two Clark undergrads through the LEEP Fellowship.
- Provided summer volunteer hours to 15+ high school students for academic merit.
- Beginner students (ages 7-12) got a solid understanding of Scratch programming.
- Intermediate students (ages 10-16) advanced in game design, text-based website development, and got a basis for further computer science exploration.
- Advanced students (ages 15-18) got an introduction to Java, preparing them for a college-level introduction to computer science course with serious programming tools like variables, I/O, and control structures.
- A final showcase in August 2020 exhibited the work of all participating students, including animations, games, and websites.
- Praise from parents of participants included:

All the mentors including Clarise, Anaya and Marzuq were enthusiastic, patient and eager to help. Appreciate their time and effort! My kid really enjoyed the summer with the mentors. Thanks so much!
Violet Blue was a good session leader. While my child did not work directly with Violet in her breakout room, Violet did a nice job starting and ending each session. She encourage students to share their work but did not push them if they were uncomfortable. She was very supportive of students participating in her session.
Her teacher Jamie was the highlight of the program--it was great for my daughter to learn from a woman who codes! She did a great job building community within the group.
Harsh Patel is an excellent mentor and he is very educated in his major!!

Acknowledgements

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